Breeding *Lysandra coridon* ab. *syngrapha*

By Major-General C. G. Lipscomb, C.B., D.S.O.

In August 1966 I captured an *L. coridon* ab. *syngrapha* and decided it was time I realised one of my life's minor ambitions by attempting to breed this form of *coridon*.

Accordingly the butterfly was placed in a talc cylinder with a container at the bottom holding a sod of downland turf and with a perforated metal top. Additional ventilation was provided on two sides by cutting windows in the talc and fixing nylon netting over them. For nourishment a small bunch of downland flowers was placed in a bottle set in the turf. This home seemed to suit the lady because she laid upward of 100 eggs in the fortnight or so that she lived.

The eggs were laid indiscriminately on the various plants that comprised the turf so that although *H. Comosa* was present it was not necessarily selected for egg laying—I have no reason to believe that this state of affairs is any different in the wild so that either the young larvae, when they hatch in the spring, must be uncommonly good walkers or it must lead to a high rate of wastage.

During the autumn the eggs were removed with the aid of forceps and scissors and placed in a plastic container to over-winter. Butter muslin was secured over the top of the container which was kept in a meat safe on a north facing wall.

During the first week in March the eggs were placed on growing plants of *comosa* in 4″ flower pots—a wire cage was constructed over each pot and a length of one of my wife's discarded nylon stockings stretched over this completed the job. The pots were sunk in the ground and a cloth placed over them to keep the rain out.

Towards the end of June I found I had 98 well-grown larvae and very little growing food plant left. Accordingly I liberated half of them on a local *coridon* down and continued feeding the remainder on cut *comosa* which I placed in large plastic containers with a layer of dry peat at the bottom in which the larvae pupated most successfully.

All the butterflies to emerge were quite normal and they were placed in an airy breeding cage well supplied with flowers but for some reason seemed most reluctant to pair—In desperation I sent a number to Alan Collier, the Master hand in such matters, and he was successful in getting pairings and eggs. I myself eventually got several observed pairings when I put the butterflies under a large semi-circular gauze meat cover standing on my lawn in full sun — once paired the females were placed in the talc cylinder where they again laid freely.

I eventually found I had between 300 and 400 eggs for over-wintering and I had visions of being able to stock all the local downs with this lovely variety. Large quantities of *comosa* were grown from seed in 8″ pots and all seemed set for a successful breeding season this year when in March I again distributed the eggs amongst the pots of growing food plant.

However, success was not to be so easily attained as I soon found that all the *comosa* plants were infested with greenfly which literally smothered every scrap of fresh growth—I have yet to find the answer to this problem as the best I could do was to lay the pots on their sides and try and brush the fly off. This was never really successful as a

great many remained on the lower parts of the plant, and in the early stages *coridon* larvae and the fly are of the same size and colour and so can easily be destroyed together.

This disinfestation had to be carried out at least once a week and to add to my difficulties the plants began to wilt and die, no doubt as the direct result of the fly sucking their vital juices. To cut a sad story short, I was eventually left with two fairly healthy pots of food plant and 36 full fed larvae. I put a layer of peat on top of each pot to assist pupation but I made the mistake of letting it get damp when I watered the plants and as a result 19 pupae went mouldy and died. From the 17 survivors there emerged 9 males, 5 females and 3 ab. *syngrapha*—about what could be expected from a normal recessive in the F.2. generation.

It was some consolation that I had realised my ambition and incidentally learnt a lot in the process, but I should be most grateful if somebody could tell me how to control greenfly under these conditions.

Zygaena (Mesembrynus) diaphana Staudinger and *Zygaena (Agrumenia) carniolica* Scopoli in Georgia (Transcaucasia)

By Hugo Reiss, Stuttgart

Zygaena diaphana ingens Burgeff (comb. nov.)

Professor H. Burgeff (1926: 14) described *ingens* as a subspecies of *Zygaena purpuralis* Brünnich as follows: "Gigantic specimens from Tiflis the bulk even 3-4 times larger than *purpuralis*, forewing length 17-18 mm. (instead of 15-15·5 mm.), width behind the apex of the forewing ca 7 mm. (instead of 6 mm.). Antennae dainty, hardly larger than in the nominate form. Red spots narrow, 1, (3, 5, 6), (2, 4), separated by the chief veins. Middle spot terminated abruptly, of which spot 6 projects and is strongly developed. Apex of hindwings narrowly edged with black. Red a pale carmine, almost carmine-rose, which on the forewings is somewhat lighter than on the hindwings. Black ground colour of forewings almost without gloss. Legs even in the ♀, black (8♂, 8♀ from the neighbourhood of Tiflis via Bang-Haas).".

A male from the coll. Burgeff is illustrated in colour (Reiss, 1930: 8, pl. 1g).

Holik & Sheljuzhko (1953: 176) wrote on the distribution of *ingens* Burgeff: "The ssp. *ingens* Burgeff is not restricted to the neighbourhood of Tiflis, as is shown by the material before us, which agrees perfectly with Burgeff's description. Further authentic localities are: Borzhom, 2♂, 1♀, 5-6.vii.1910, leg. Xienzopolski, 1♂, coll. Staudinger, Berlin, leg. Christoph, 28.vi.1880; Berg Bolshoje Pozharistshe, near Borzhom, 3♂, 2♀, 17-26.vii.1915, leg. Kotshubei, 2♂, 2♀, 13-15.viii.1932, 1♀, 28.vii.1937, leg. Tkatshukov; Mitarba, near Bakuriani, 4♂, 1♀, 21.vii.1932, leg. Tkatshukov; Abas-tuman, 6♂, 4♀, 23-29.vii.1914, leg. Sheljuzhko, 1♂, leg. Haberhauer, 1882, in coll. Staudinger; slopes of the Zekar-Pass, near Abas-tuman, 1,800 m., 4♂, 1♀, 28.vii.1914, leg. Sheljuzhko, 8♂, 3♀, 12. vii.1917, leg. Kotshubei".

A study of the genitalia of a male and female by W. Gerald Tremewan, Woodham, Weybridge (personal communication) and a male by Fr. Heller,